

WHAT IS CLAIMED IS:

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A1

1. A system for improved sound absorption, comprising:  
a substrate of porous insulation material and of a first air flow resistance; and  
a facing material attached to the substrate and of a second air flow  
resistance, wherein a total system resistance is a combination of the first and second air  
flow resistances, and wherein the total system resistance and the second air flow resistance  
are of relatively low values.

2. The system of claim 1, wherein the facing material has an air flow resistance  
of around between 100 to 500 MKS Rayls.

3. The system of claim 1, wherein the total system air flow resistance is around  
between 900 to 1300 MKS Rayls.

4. The system of claim 1, wherein the substrate is made of one of glass fiber,  
mineral wool, thermoplastic polymeric fiber, thermosetting polymeric fiber, carbonaceous  
fiber, milkweed fiber, and foam insulation

5. The system of claim 1, wherein the substrate is a ceiling tile.

6. The system of claim 1, comprising:  
a second facing material attached to the substrate.

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A2

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